IOWA DEPARTMENT OF NATURAL RESOURCES

Sport Fish Restoration Research Findings

Pond Production of Fingerling Hybrid Striped Bass for Stocking into Iowa Impoundments

Project Duration: 2009-2012
Locations: Saylorville Reservoir, Red Rock Reservoir
Study Number: 7036

Large Impoundments Fisheries Research Team:

Randall D. Schultz, Fisheries Biologist
Mark Richardson, Fisheries Technician 2
Andy Fowler, Fisheries Technician 2
Carol Dixson, Secretary 2

For more information, please contact the Chariton Fish Research Station at (641) 774-2958.

Pond Production of Fingerling Hybrid Striped Bass for Stocking into Iowa Impoundments

The Hybrid Striped Bass is a cross between Striped Bass (Morone saxatilis) and White Bass (Morone chrysops); it is naturally sterile and must be produced in a hatchery. Hybrid Striped Bass are known for their fast growth, aggressive feeding behavior, strong "fight" during fishing, and potential for growing to trophy sizes. These fish have been stocked occasionally in Iowa waters since the 1980s, but only in a few large flood-control reservoirs. Reliable production of Hybrid Striped Bass in Iowa hatcheries and rearing ponds would enable more consistent stocking in more places, benefitting anglers across Iowa. Improved culture and marking techniques can accomplish this and facilitate additional research on Hybrid Striped Bass.

Goals

- To evaluate the ability of lakeside fish rearing ponds to produce fingerling (1-2.5" length) Hybrid Striped Bass.
- To determine an effective and economical mark for identifying specific groups of Hybrid Striped Bass, a necessity for experimental research.
- To assess population characteristics of Hybrid Striped Bass in Saylorville and Red Rock reservoirs using fall gill netting.

Results

- Hybrid Striped Bass fry stocked into a rearing pond at Saylorville Reservoir grew quickly to 1.5-2"with high survival. However, overflow from the rearing pond caused by rains washed fish into the reservoir earlier than planned; the inability to control this overflow made the Saylorville location an inadequate place for Hybrid Striped Bass rearing unless water level controls are added.
- Fry raised to fingerling size were marked with both oxytetracycline (OTC) and freeze-branding. A post-mark salt bath significantly reduced mortality. An OTC concentration of 700 ppm produced more readable marks on fish otoliths (ear bones) and dorsal spines than 500 ppm; however, many control structures were misread, perhaps due to the small distance between the mark and the edge of the structure.

Freeze brands remained visible over winter and could be applied at a rate of 700 fish per person-hour.

- Fall gill netting at Saylorville and Red Rock Reservoirs resulted in catch rates between 0.7-1.73 fish/net-night, with higher catch rates in the Saylorville Reservoir. Red Rock Reservoir's population reached a maximum age of 3 years, whereas Saylorville Reservoir's population ranged from 0 to 7 years; Red Rock Reservoir also had missing year-classes (i.e., no fish of a specific age were found). Hybrid Striped Bass growth was slightly below average for the Midwest, but Iowa is further north than most comparison reservoirs.

Conclusions

- Generally, rearing ponds can provide excellent nursery habitat for growing Hybrid Striped Bass fry to fingerling size, given adequate water quality and plankton blooms (with supplemental feed as needed). Water level controls on the pond are necessary.
- Fingerlings can be quickly and reliably marked for short-term studies using simple freeze brands, such as a vertical bar.
- Saylorville Reservoir supports a higher-density older population of Hybrid Striped Bass than Red Rock Reservoir. Additional sampling with fall gill nets can provide comparable data from other lakes.